7506 Page 1 of 8



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/032,256A

DATE: 06/03/2002

TIME: 13:22:15

Input Set : A:\M2335hnl.app

Output Set: N:\CRF3\06032002\J032256A.raw

ENTERED

```
3 <110> APPLICANT: CHODOSH, Lewis A
             GARDNER, Heather P
     6 <120> TITLE OF INVENTION: HORMONALLY UP-REGULATED, NEU-TUMOR-ASSOCIATED KINASE
      8 <130> FILE REFERENCE: 22253-70421
     10 <140> CURRENT APPLICATION NUMBER: 10/032,256A
C--> 11 <141> CURRENT FILING DATE: 2002-05-21
     13 <150> PRIOR APPLICATION NUMBER: 60/257,073
     14 <151> PRIOR FILING DATE: 2000-12-21
     16 <160> NUMBER OF SEQ ID NOS: 18
    18 <170> SOFTWARE: PatentIn Ver. 2.1
     20 <210> SEO ID NO: 1
     21 <211> LENGTH: 5024
     22 <212> TYPE: DNA
     23 <213> ORGANISM: Murinae gen. sp.
     25 <400> SEOUENCE: 1
     26 gcaggaggag ccagggcagc cccgggagcc ggaggaggag cggctgcgag cgcgggagcc 60
     27 gagcgagcgc gatgccggca gcggcggggg acgggctctt gggcgagccg gcggcaccgg 120
     28 ggggcgatgg aggcgcggag gacacgacca ggccggcggc ggcctgcgag ggaagtttcc 180
     29 tgcccgcctg ggtgagcggc gtgtcccgcg agcggctccg ggacttccag caccacaagc 240
     30 gcgtgggcaa ctacctcatc ggcagcagga agctgggaga gggctccttc gccaaggtgc 300
     31 gcgaggggct gcacgtgctg acgggagaaa aggtagctat caaggtcatc gataagaaaa 360
     32 gagccaagaa agacacctac gtcaccaaaa acctgcgtcg agaggggcag atccagcaga 420
     33 tgatccgaca ccccaacatc acacagctcc tggacatctt ggagacagag aacagctact 480
     34 acctggtcat ggagctgtgt cctggtggca acctcatgca caagatctac gaaaagaaac 540
     35 ggttggatga agccgaggcc cgcagataca tccggcaact catctctgcg gtggaacacc 600
     36 tgcaccgtgc gggggtggtt cacagagact tgaagataga gaatttgcta ctagatgaag 660
     37 acaataatat caagctgatt gactttggct tgagcaactg tgcagggatc ctaggttact 720
     38 cggatccatt cagcacacag tgtggcagcc ctgcctatgc tgcgccagaa ctgcttgcca 780
     39 ggaagaaata tggccccaaa attgatgtct ggtcaatagg cgtgaacatg tatgccatgc 840
     40 tgacggggac cctacctttc actgtggagc ctttcagcct gagggctctg tatcagaaga 900
     41 tggtggacaa agcaatgaat cccctgccga cccagctctc cacaggggcc gtcaactttc 960
     42 tgcgctccct cctggaacca gaccctgtga agaggccgaa tatccagcaa gcgctggcga 1020
     43 atcgctggtt gaatgagaat tacactggaa aggtgccctg caatgtcacc tatcccaaca 1080
     44 ggatttcttt ggaagacctg agtcccagcg tggtgctgca catgactgaa aagctgggct 1140
     45 ataagaacag tgacgtcatc aacacggtgc tctccaaccg cgcctgccac atcctggcca 1200
     46 tctacttcct gttgaacaag aaacttgagc gctatttgtc agggaaatca gatatccaag 1260
     47 atagcatctg ctacaagacc cagctctacc agatagagaa gtgcagagcc accaaggagc 1320
     48 cctatgaggc ctccctggat acctggacga gggactttga attccatgct gtgcaggata 1380
     49 aaaagcccaa agaacaagaa aaaagaggtg attttctcca ccgtccgttt tccaagaagt 1440
     50 tggacaagaa cctgccttct cacaaacagc catcgccctc gctgatcaca cagctccaga 1500
     51 gtaccaaagc cctgctcaaa gacaggaagg cctccaagtc aggcttcccc gacaaagatt 1560
     52 cettegtetg cegeaatett tteegaaaaa eetetgatte caattgtgtg gettettett 1620
```

53 ccatggaatt catccctgtc ccacctccca ggacaccaag gattgtaaag aaactagagc 1680

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/032,256A

DATE: 06/03/2002 TIME: 13:22:15

Input Set : A:\M2335hnl.app

Output Set: N:\CRF3\06032002\J032256A.raw

54 cacaccaacc agggccggga agtgccagca tcctccccaa ggaagagccc ctgctgctgg 1740 55 atatggtacg ctcctttgag tctgtggatc gagaggacca catagaactg ctgtcccctt 1800 56 ctcaccatta taggatectg agetegeetg tgageetgge tegtaggaat tetagtgaga 1860 57 ggacactete ecaggggetg etgteeggaa gtaceteace tetecaaact ecaetgeatt 1920 58 ccacgctggt ctcttttgcc cacgaagaaa agaacagccc cccgaaagag gagggtgtgt 1980 59 gttcaccgcc tecegttece agtaatggcc tectgcagec tetggggage cecaactgtg 2040 60 tgaagagcag gggacggttc cccatgatgg gcatcggaca gatgctgagg aagcggcacc 2100 61 agagectgca geetteetca gagaggteec tggaegeeag catgteecet etgeageeca 2160 62 tagcccctc cagcctctcc tttgacatgg ccgacggtgt caagggccag tgttaacctg 2220 63 ggatggcaag attctgggtc tctgtgagga cagccacgga acagagctcc acacaggcag 2280 64 gcaccagggc atgggtgaac aacctcacgg gagcatcctt tattctttta tacctgccac 2340 65 acaaagteec aegettgtat cagetgaagt ceacacteaa agteeaegea ettaettagg 2400 66 gaccetetga gacgetgeea etagggggag ggggaggggg cagactgtgg gaatcacace 2460 67 ttccagcctg agattttctt tgctatcacc aatcactgag ccctctccag gatcccctca 2520 68 gtgggctcag agctaaaaac cacacctcca tctgctgggc caatcagatt tccagactgg 2580 69 taccaggttg tecetecect ectetetgtg tgteteteac agttetgtaa etgacegtea 2640 70 gtggtcagtt acagtctcac gcggacgtgc cactcgctgg taaggacgtt cacccaacct 2700 71 agggateeet etacagaggg aagcaaceet cettteeeta acagtgagte eecacagagt 2760 72 gctgagtcac agtgctggac cgggaggaag atgggatggc gcctcagaca gagatggaac 2820 73 ccagcagcga gaacccagga ggaagacgaa gactcaaacg ctcattcctg tgcaacgttt 2880 74 tgacagattt ttctttcctc tctttctttt tcccctgacc ttttcttctt tttgggttga 2940 75 aacttgctga ggattgaacg aacttgtcca aagagatctt tctttatatg aagtcattaa 3000 76 ttaaatttt tttttaaaga cagggtctca ttaagtagcc caagctggct tcaaactcat 3060 77 gatcetectg ceteageete caaagtgetg agattacaag tatataceeg tgtetggete 3120 78 aaaatagcaa ttcaaaaaca aaaactagtt ggccagatga aaagtagttt taccaaattc 3180 79 acgtgttttt gtttttctga gaggctgcag ctcagatggc caaaaagctg gcaacaggag 3240 80 gaccacagtg geetgeetge ctaagggata gtageetage cateetgtgt ttatacegtg 3300 81 gcagcagcag aaggcataga acttagctcc agatggctct ggagagagag aaaggattct 3360 82 taaagcagag ttgagacagc aagaagcagg gaattcgctg tgtcatgctg ttctgccgtg 3420 83 gttagaactt agctgttctg ctgggagcta ggagcagget tgccgcccc tgggaacacg 3480 84 ctcacaagac ggttcgtccc caaaggaaac agtgcccccc aaacaggctt tcagtccact 3540 85 ctgtaatctg cacetteece tecaggattg aaccaaagat geattteegg ttttgtgact 3600 86 gtgccactct gtgtgtctct tgtggaacct ggtgttgtct gatcctgtcc ggctggcgct 3660 87 ggatggagga ctgtctctgt gtgcatcgtg ggccctggta cttagcagag gacaaagggt 3720 88 actgttgtca ggaggggaag acttggcacg ggctggacca cagttagttt agaagttatg 3780 89 gaacagetca gaatettetg gtetttgact attteagatg gggteagaga ceagagetgt 3840 90 agccaggaag ccaggttcat catcttggtc catcgattct aaagtgggca aatttctgtg 3900 91 acgtcacaaa geeggeettt geeagtgagg getgagacae agtacaaetg eeteteattt 3960 92 actggtggca ggcggcttcc tttggcctct cagagctctg actgaactag aagagaacac 4020 93 ggatttggct gaccctggaa gaaagctgct ctagtcctgg ctgaatttgg taagacctgg 4080 94 actacttaaa cettagggag ggactgacte cetecegagg acceattaca ggaggaggee 4140 95 aggettttet eccagagetg atggtgttet teatteagea tggetteegt teageteeca 4200 96 ggacttgaca ctgaaaatag aactetttaa gcagagagaa gaggagaacc atccacagac 4260 97 gctccccgta tttgatgtga cgtgtttgag ctttgacggg tgaagagtcc ttttaaaaga 4320 98 taactgccag ctgcaggcat ctggctctgc aaagctggta ggatgtgtac ctgtgtactg 4380 99 tgcccgccc ctttctccta gccctttatg tctttttctg actgtttgct tttctcgtat 4440 100 gtatgtgtgc ctgtgttggt gcgagcctgt ggagaaagag tctcccatcc ttcaaatgct 4500 101 tcgagaacag cgtcagatgt acaactagtt tgcctgcgtt gctactggta ccttggactc 4560 102 tgaactcagg ttacccacct gagtcctcag taggcagtgg acccattgag aggcaaatga 4620 RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/032,256A

DATE: 06/03/2002 TIME: 13:22:15

Input Set : A:\M2335hnl.app

Output Set: N:\CRF3\06032002\J032256A.raw

													~+~~	a	~~~~	at at a	4680	
103	gaac	agga	gg g	agac	aago	t gt	.gttc	tggg	gcg	caca	taa	acac	crya	.ca (	yacya	gtcta	4740	
104	ganagoogog tgaaagaaga aatgttaaat tetttattgt							tgt	ttta	4740								
105	antatageta teettttatt aagtgeagag tgtattgtet								tct	gtttgacca tgactgtcct								
106	tentenates atotttacct atgattctag teagectata actactata agadegge										ggccg	4000						
107	atotatosto statasaato caggaggaag aatotatiti agica									atac	:ga	4720						
108	agtaaggact atatttatgt caccactatt gaatatatgt									acti	4900							
109	atacactttt tcctcacaaa aaaaaaaaaa aaaaaaaa												5024					
	<210> SEQ ID NO: 2																	
	3 <211> LENGTH: 714																	
	<211>   LENGTH: 714																	
115	<213> ORGANISM: Murinae gen. sp.																	
117	<400	> SF	OUEN	CE:	2													
118	Met	Pro	Ala	Ala	Ala	Gly	Asp	Gly	Leu	Leu	Gly	Glu	Pro	Ala	Ala	Pro		
119	1	110			5	•	-	-		10					15			
121	Gly	Glv	Asn	Glv		Ala	Glu	Asp	Thr	Thr	Arg	Pro	Ala	Ala	Ala	Cys		
122				20					25					30				
124	Glu	G1 v	Ser	Phe	Leu	Pro	Ala	Trp	۷al	Ser	Gly	Val	Ser	Arg	Glu	Arg		
125	GIU	011	35					40			_		45					
127	Lou	Δτα	Δsn	Phe	Gln	His	His	Lvs	Arq	Val	Gly	Asn	Tyr	Leu	Ile	Gly		
120		50					55					60						
120	cor	Δra	T.37 G	T.e.ii	Glv	Glu	Glv	Ser	Phe	Ala	Lys	Val	Arg	Glu	Gly	Leu		
	65	my	בינם		0-1	70	1				75					80		
133	. UJ	Val	T.e.11	Thr	Glv	Glu	Lvs	Val	Ala	Ile	Lys	Val	Ile	Asp	Lys	Lys		
134	1113	vu.	БСи	+	85		-1-			90	-				95			
136	λκα	Δla	T.vg	Lvs	Asp	Thr	Tvr	Val	Thr	Lys	Asn	Leu	Arg	Arg	Glu	Gly		
137	Arg	лти	цу	100	p		-1-		105	-			_	110				
130	G1n	Tle	Gln	Gln	Met.	Ile	Arq	His	Pro	Asn	Ile	Thr	Gln	Leu	Leu	Asp		
140	GIII	110	115	0			3	120					125					
1/2	Tle	T.eu	Glu	Thr	Glu	Asn	Ser	Tyr	Tyr	Leu	Val	Met	Glu	Leu	Cys	Pro		
143	110	130	014				135	•	-			140						
145	Glv	Glv	Δsn	Len	Met	His		Ile	Tyr	Glu	Lys	Lys	Arg	Leu	Asp	Glu		
	145		11011			150	-		-		155	•				160	. *	
148	Δla	G111	Δla	Ara	Ara	Tvr	Ile	Arq	Gln	Leu	Ile	Ser	Ala	Val	Glu	His		
149		Olu	1114	9	165	-1-		,		170					175			
151	T.011	ніс	Δrσ	Ala	Glv	Va1	Val	His	Arq	Asp	Leu	Lys	Ile	Glu	Asn	Leu		
152		1113	**** 9	180					185	-		_		190	)			
154	Т. Д.11	Τ.Δ11	Δcn	Glu	Asp	Asn	Asn	Ile	Lys	Leu	Ile	Asp	Phe	Gly	Leu	Ser		
155		шси	195	014				200	_			_	205					
157	Acn	Cvc	λla	Gly	Tle	Len	Glv	Tvr	Ser	Asp	Pro	Phe	Ser	Thr	Gln	Cys		
		210	Alu	OLY	110	Lou	215	-1-				220						
158	C137	Cor	Dro	Δla	Tyr	Δla	Ala	Pro	Glu	Leu	Leu	Ala	Arg	Lys	Lys	Tyr		
		Ser	FIO	niu	-1-	230					235		-	_		240		
162	225	Dro	Lare	T10	Δen	Val	Trp	Ser	Ile	Glv			Met	Туі	Ala	Met		
		FIU	шуз	110	245					250				_	255			
164	Tou	Thr	Clv	ጥh ∽	Len	Pro	Phe	Thr	Val		Pro	Phe	Ser	Leu	ı Arg	Ala		
		T 111T	GIĀ	260		110	- 110		265					270	) _			
167	LOU	<b>ጥ</b> ፣፣ ታ	Gln	T.v.c	Mot	Va 1	Asp	Lvs			Asn	Pro	Leu	Pro	Thr	Gln		
		тĀŢ	275	цуз	1100	, u.i.		280					285					
170	T 011	C^*	ው ነው ተ	G1 v	Δla	Val	Agn			Ara	Ser	Leu	Leu	Glu	ı Pro	Asp		
1/2	ьeu	ser	TIIT	оту	та	y u I	11011	1 110		5						_		

DATE: 06/03/2002 RAW SEQUENCE LISTING TIME: 13:22:16 PATENT APPLICATION: US/10/032,256A

Input Set : A:\M2335hn1.app
Output Set: N:\CRF3\06032002\J032256A.raw

							205					300				
173		290		•	D	3.55	295	01n	Cln	ת ה	Tou		Δen	Δτα	Trn	Leu
		vaı	гàг	Arg	Pro		me	GIII	GIII	мта	315	AIG	ASII	Arg	115	320
176	305	<b>a</b> 1	•		mb	310	T ***	wa 1	Dro	Cvc		Va1	Thr	ጥህጉ	Pro	
	Asn	GIU	ASN	туг		GIY	гуѕ	vaı	PIO	330	ASII	Val	1111	Tyr	335	
179	_	-1.	<b>a</b>	<b>.</b>	325	7.00	т ол	Cor	Dro		17 a 1	Val	T.011	ніс		Thr
	Arg	TTE	Ser		GIU	ASP	Leu	Ser	345	ser	Val	Val	пец	His 350	ricc	1111
182	_ •	_	_	340		T	3	Com		17 - 1	т1 о	λan	Thr		T.eu	Ser
	GIu	ьуs		GIY	туг	гуѕ	ASII	360	ASP	Val	116	HSII	365	Val	ЦСи	001
185	_	_	355	<b>a</b>	*** -	<b>T1</b> -	T 0.11		т10	Ф177	Dho	Lau		Δen	T.vg	Lvs
	Asn		Ата	Cys	HIS	rre-	375	Ата	TIE	тут	FIIC	380	пси	Asn	1,5	<b>-</b> 12
188	_	370			<b>.</b>			T ***	Cor	N C P	т10		λen	Ser	Tle	Cvs
		GLu	Arg	Tyr	Leu		СТУ	ьуѕ	ser	ASP	395	GIII	изр	Ser	110	400
191	385	_	1	a1	<b>.</b>	390	C1 n	т1 о	C1.1	Tvc				Thr		
	Tyr	ьуs	Thr	GIII		тут	GIII	ire	GIU	410	Cys	nrg	mu	1111	415	014
194		<b></b>	<b>61</b>	*1-	405	T 011	) an	Пhr	Trn		λνα	Δen	Dhe	Glu		His
	Pro	Tyr	GIU		ser	ьeu	ASP	TIIT	425	7 111	лгу	пэр	1 110	430	1	
197			a1	420	T	T *** 0	Dwo	Tvc		Cln	Glu	T.37.C	Δησ	Gly	Asp	Phe
	Ala	vaı		ASP	гаг	гуѕ	PIO	440	GIU	GIII	GIU	цуз	445	OLI	nop.	
200	_	•	435	D	Dha	Com	T		T 011	N cn	Tvc	λen		Pro	Ser	His
	Leu		Arg	Pro	Pne	ser	455	гуѕ	Leu	изр	цуз	460	пси	110	001	
203	_	450	n	<b>a</b>	D	Com		т1 о	Пhr	Cln	T.All		Ser	Thr	Lvs	Ala
		Gin	Pro	ser	PIO	470	Leu	116	1111	GIII	475	GIII	JCI	1111		480
206	465	<b>+</b>	T	7.00	7 22		λ l a	Cor	Tue	Sar		Dhe	Pro	Asp	Lvs	
	Leu	ьeu	гаг	ASP	485	гуѕ	нта	261	цуз	490	OLY	1110	110	riop	495	F
209	<b>a</b>	Dl	17- 1	0		7 an	T 011	Dho	λrα		Thr	Ser	Asn	Ser		Cvs
	ser	Pne	Val	500	AIG	ASII	Leu	FIIC	505	цуз	1111	001	1105	510		-1-
212	170.1	717	Cor	500	Cor	Mat	G111	Dhe		Pro	Va 1	Pro	Pro	Pro	Ara	Thr
		Ата	515	ser	SET	Mec	GIU	520	110	110	,		525		5	
215	Dro	λνα	T10	Va 1	T.v.c	T.vg	T.e.11		Pro	His	Gln	Pro	Glv	Pro	Glv	Ser
218		530	116	val	цуз	цуз	535	01.4			0	540	1		_	
220	712	Sor	Tla	T.011	Pro	Lvs		Glu	Pro	Leu	Leu		Asp	Met	Val	Arq
	545	261	110	пси	110	550	0	777			555		•			560
221	Ser	Dhe	Glu	Ser	Va 1		Άrσ	Glu	Asp	His	Ile	Glu	Leu	Leu	Ser	Pro
224	Der	1 110	OLU	501	565	1101	9			570					575	
224	Ser	His	His	Tvr		Ile	Leu	Ser	Ser	Pro	Val	Ser	Leu	Ala	Arg	Arg
227	DCI	1115		580	9				585					590	_	
229	Δgn	Ser	Ser	Glu	Ara	Thr	Leu	Ser	Gln	Gly	Leu	Leu	Ser	Gly	Ser	Thr
230		501	595		5			600		_			605			
232	Ser	Pro	Leu	Gln	Thr	Pro	Leu	His	Ser	Thr	Leu	Val	Ser	Phe	Ala	His
233		610		<b></b>			615					620				
235	Glu	Glu	Lvs	Asn	Ser	Pro	Pro	Lys	Glu	Glu	Gly	Val	Cys	Ser	Pro	Pro
	625		-1-			630		-			635					640
238	Pro	Val	Pro	Ser	Asn	Gly	Leu	Leu	Gln	Pro	Leu	Gly	Ser	Pro	Asn	Cys
239					645					650					655	
241	Val	Lvs	Ser	Arq	Glv	Arq	Phe	Pro	Met	Met	Gly	Ile	Gly	Gln	Met	Leu
242				660					665					670		
244	Ara	Lys	Arq	His	Gln	Ser	Leu	Gln	Pro	Ser	Ser	Glu	Arg	Ser	Leu	Asp
245		1	675					680					685			

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/032,256A

DATE: 06/03/2002
TIME: 13:22:16

Input Set : A:\M2335hnl.app

Output Set: N:\CRF3\06032002\J032256A.raw

```
247 Ala Ser Met Ser Pro Leu Gln Pro Ile Ala Pro Ser Ser Leu Ser Phe
                                                     700
                                 695
    248
    250 Asp Met Ala Asp Gly Val Lys Gly Gln Cys
    251 705
    254 <210> SEQ ID NO: 3
    255 <211> LENGTH: 10
    256 <212> TYPE: RNA
    257 <213> ORGANISM: Unknown Organism
    259 <220> FEATURE:
    260 <223> OTHER INFORMATION: Description of Unknown Organism: Kozak consensus
              sequence
    261
    263 <400> SEQUENCE: 3
                                                                            10
    264 gccrccaugg
    267 <210> SEQ ID NO: 4
    268 <211> LENGTH: 6
    269 <212> TYPE: DNA
    270 <213> ORGANISM: Unknown Organism
    272 <220> FEATURE:
    273 <223> OTHER INFORMATION: Description of Unknown Organism:polyadenylation
              signal
    274
    276 <400> SEQUENCE: 4
                                                                             6
    277 aataaa
    280 <210> SEQ ID NO: 5
    281 <211> LENGTH: 6
    282 <212> TYPE: DNA
    283 <213> ORGANISM: Murinae gen. sp.
    285 <400> SEQUENCE: 5
    286 aataca
    289 <210> SEQ ID NO: 6
    290 <211> LENGTH: 6
    291 <212> TYPE: PRT
    292 <213> ORGANISM: murine Hunk; fragment
    294 <400> SEQUENCE: 6
    295 Asp Leu Lys Pro Glu Asn
    296 1
    299 <210> SEQ ID NO: 7
    300 <211> LENGTH: 21
     301 <212> TYPE: DNA
     302 <213> ORGANISM: Artificial Sequence
     304 <220> FEATURE:
     305 <221> NAME/KEY: misc_feature
     306 <222> LOCATION: (17)
     307 <223> OTHER INFORMATION: n is a, c, g, or t
     309 <220> FEATURE:
     310 <223> OTHER INFORMATION: Description of Artificial Sequence:degenerate
               oligonucleotide primer PTKIa
     311
     313 <400> SEQUENCE: 7
                                                                             21
W--> 314 gggcccggat ccacmgngay y
     317 <210> SEQ ID NO: 8
```

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/032,256A DATE: 06/03/2002 TIME: 13:22:17

Input Set : A:\M2335hnl.app

Output Set: N:\CRF3\06032002\J032256A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 17